COREQ checklist for the research project PreKo, 2018-2021

(Funding agency: Afa Försäkring, dnr. 170018)

For the research project *"A Model for predictive assessment of cognitive workload – PreKo"* (Chalmers, 2021), we (the researchers) have completed a COREQ (Consolidated Criteria for Reporting Qualitative Studies; Booth et al., (2014); Tong, Sainsbury, & Craig, (2007)) checklist to transparently convey the research project's study design in detail with regard to the multi-case interview study that was carried out in the project.

Participating researchers:

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Domain 1: research team and reflexivity		
Personal Characteristics		
1. Interviewer/ facilitator	Which author/s conducted the interview or focus group?	Ann-Christine Falck, PhD and Cecilia Berlin, PhD (both in Production Ergonomics) conducted all interviews.
2. Credentials	What were the researcher's credentials? e.g. *PhD, MD*	Both Falck and Berlin hold PhD:s and Associate Professorships (*swe: Docent*) in Production Ergonomics, and are registered Certified European Ergonomists via CREE.
3. Occupation	What was their occupation at the time of the study?	Berlin was Associate Professor (*Reader*) at Chalmers University of Technology. Falck was a researcher consultant with affiliation to Chalmers, but independently contracted to the project through her private business.
4. Gender	Was the researcher male or female?	Both interviewing researchers were female.
5. Experience and training	What experience or training did the researcher have?	Both Falck's and Berlin's PhD training regimes included plentiful instruction in qualitative data collection and analysis, and they have previously carried out numerous interview-based studies on physical and organizational ergonomics
Relationship with participants		
6. Relationship established	Was a relationship established prior to study commencement?	A relationship was established with a contact person at each participating case company. The contact person then facilitated the recruitment of interview participants.
7. Participant knowledge of the interviewer	What did the participants know about the researcher? *e.g. personal goals, reasons for doing the research*	All participants were introduced at the beginning of the interview to the goals and procedure of the research project, both in writing and from an intro script read at the beginning of each interview. A personal introduction to the individual interviewer

		was not prioritized, due to limited time to speak to participants.
8. Interviewer characteristics	What characteristics were reported about the interviewer/facilitator? *e.g. Bias, assumptions, reasons and interests in the research topic*	Berlin and Falck varied slightly in their semi-structured interview approach, due to the following characteristics. Falck has previously worked as an industrial ergonomics practitioner and has carried out considerable research in the field of assembly complexity, with decades of insight into automotive manufacturing. Berlin, being more of an industrial ergonomics generalist, framed each interviewee's perception more individually and with less specific focus on complexity.
Domain 2: study design		
Theoretical framework		
9. Methodological orientation and Theory	What methodological orientation was stated to underpin the study? e.g. grounded theory, discourse analysis, ethnography, phenomenology, content analysis	Thematic Analysis (as described by (Braun & Clarke, 2006))
Participant selection		
10. Sampling	How were participants selected? e.g. purposive, convenience, consecutive, snowball	"Purposive convenience sample", where company contact persons (e.g. production managers or occupational health officers) selected which people to recruit from their company's assembly lines (in order to disrupt on-going operations as little as possible). The contact persons mostly selected people who were comfortable communicating in Swedish.
11. Method of approach	How were participants approached? e.g. face-to-face, telephone, mail, email	Face-to-face in most cases; 100% of assembly workers were interviewed at their respective production site, while some Design Engineers and Manufacturing engineers were interviewed via video conference or telephone.
12. Sample size	How many participants were in the study?	75 interviewees in total: Assembly workers (50) / Manufacturing engineers (7) / Design Engineers (18)
13. Non-participation	How many people refused to participate or dropped out? Reasons?	N/A (if a planned participant was not present, they were replaced by the company contact person)
Setting		
14. Setting of data collection	Where was the data collected? e.g. *home, clinic, workplace*	All interviewees were interviewed during working hours. Assembly workers were interviewed in break rooms adjacent to the factory. Design Engineers and Manufacturing engineers were interviewed either in a secluded meeting room away from their office desk (if face-to-face), or at a location of their choice if via video conference or telephone.

15. Presence of non-participants	Was anyone else present besides the participants and researchers?	At certain operator interviews at Company A, a second researcher (industrial PhD student) from Company A was present as a listener.
16. Description of sample	What are the important characteristics of the sample? *e.g. demographic data, date*	Age range: 19 – 61 Assembly workers: 19 – 60 years (/50) Manufacturing engineers: (/7) Design Engineers: 26 – 58 (/18) Range of experience: Assembly workers: 3 months – 33 years Manufacturing engineers: 1.5 – 25 years Design Engineers: 2 – 33 years Male/Female: 52 / 23 Interview period: Feb 2019 – Mar 2020
Data collection		
17. Interview guide	Were questions, prompts, guides provided by the authors? Was it pilot tested?	The interview questions have been added as an appendix to reports and some publications, when space allows. Yes, the questions to assembly workers were pilot tested
18. Repeat interviews	Were repeat interviews carried out? If yes, how many?	No (would have been considered if not for Covid-19 pandemic)
19. Audio/visual recording	Did the research use audio or visual recording to collect the data?	Yes, audio recordings were made of all interviews
20. Field notes	Were field notes made during and/or after the interview or focus group?	Yes, but only for supportive purposes and to cover attribute or organizational information for each interviewee. The researchers relied mainly on transcribing the recordings.
21. Duration	What was the duration of the interviews or focus group?	Between 20 – 50 minutes
22. Data saturation	Was data saturation discussed?	This is discussed in the project report and in separate publications
23. Transcripts returned	Were transcripts returned to participants for comment and/or correction?	No; this was deemed unfeasible due to long time delays
Domain 3: analysis and findings		
Data analysis		
24. Number of data coders	How many data coders coded the data?	3-4 people (CB, MWB, MBC, AF)
25. Description of the coding tree	Did authors provide a description of the coding tree?	Yes
26. Derivation of themes	Were themes identified in advance or derived from the data?	Both; since the interview was semi-structured, some a-priori coding was deemed possible and appropriate

27. Software	What software, if applicable, was used to manage the data?	NVivo 12 (for qualitative data management)
28. Participant checking	Did participants provide feedback on the findings?	No (mainly due to time delays and the Covid-19 pandemic)
Reporting		
29. Quotations presented	Were participant quotations presented to illustrate the themes / findings? Was each quotation identified? e.*g. participant number*	Yes (to both)
30. Data and findings consistent	Was there consistency between the data presented and the findings?	Yes
31. Clarity of major themes	Were major themes clearly presented in the findings?	Yes
32. Clarity of minor themes	Is there a description of diverse cases or discussion of minor themes?	Partially (not comprehensive, but minor themes are mentioned in some publications as relevant)

References

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